State Quality Indicators for National HCQIP Initiative to Improve Quality of Care of Transient Ischemic Attack (TIA)/Ischemic Stroke
8/31/00

Indicators are based on evaluation and treatment recommendations from guidelines published by the American Heart Association, the National Stroke Association and from results of randomized controlled clinical trials. Measurement selection also involved indicators for TIA/Ischemic Stroke developed in consultation with local experts in 17 states undertaken during the 5th SOW and through work done on the MQIS modules for TIA/Ischemic Stroke and Atrial Fibrillation.

Quality Indicators

The primary criteria used for selection of these indicators are: (a) derivation from a published treatment guideline; (b) documentation of a link between the measured process of care and an important health outcome; and (c) PRO experience with the measure. Ideally, evidence for this "process-outcome link" should include both efficacy (clinical trials) and effectiveness (community-based cohort studies), although effectiveness data relevant to the Medicare population are unlikely to be available for most stroke topic indicators. Additional criteria include the feasibility of reliably measuring the process and the amenability of the process to improvement.

Sample: 750 inpatient fee-for-service Medicare beneficiary (all ages) acute care hospital discharge records per state (regardless of the beneficiary's state of residence) meeting the following criteria:

Inclusions:
Principal discharge diagnosis with any of the following ICD-9-CM codes:
362.34, 433.xx, 434.xx, 435.0, 435.1, 435.3, 435.8, 435.9 and 436

Time periods: Cycle 1 (04/98 - 09/98)
Cycle 2 (07/98 - 12/98)
Cycle 3 (10/98 - 03/99)

Quality Indicator #1: Antithrombotic prescribed at discharge

Denominator inclusions:

Principal discharge diagnosis with any of the following ICD-9-CM codes: 362.34, 433.xx, 434.xx, 435.0, 435.1, 435.3, 435.8, 435.9 and 436

and

Discharged alive

Denominator exclusions:

Discharged against medical advice

or

Transferred to another acute care facility

or

Patient refusal of all antithrombotics

or

One or more exclusion for aspirin, ticlopidine, clopidogrel, dipyridamole and warfarin which include:

- allergy to aspirin, ticlopidine, clopidogrel, dipyridamole and warfarin (history or current)
- complication related to aspirin, ticlopidine, clopidogrel, dipyridamole and warfarin (history or current)
- bleeding disorder (current)
- physician documentation of risk for bleeding (current)
- peptic ulcer (current)
- terminal/comfort care on the day of arrival or during the stay
- CVA, hemorrhagic (history or current)
- brain/CNS cancer (history or current)
- extensive/metastatic cancer (history or current)
- terminal illness (life expectancy less than 6 months)
- hemorrhage, any type (history or current)
- intracranial surgery/biopsy (current)
- planned surgery within 7 days following discharge
- physician documentation one of the following antithrombotics was considered but not prescribed – Aggrenox, aspirin, dipyridamole, clopidogrel, or ticlopidine
- unrepaired intracranial aneurysm (history or current)
- aortic dissection (current)

Numerator inclusions:

Patients in the denominator with Aggrenox, aspirin, ticlopidine, clopidogrel, dipyridamole or warfarin prescribed at discharge

or

Patients in the denominator with physician documentation of a plan for Aggrenox, aspirin, ticlopidine, clopidogrel, dipyridamole or warfarin after discharge

Quality Indicator #2: Avoidance of sublingual nifedipine in patients with acute stroke

Denominator inclusions:

Confirmed diagnosis of acute stroke (stroke = new/evolving visual/speech/motor/sensory deficit lasting greater than one hour and present upon arrival, acute = earliest visual/speech/motor/sensory deficit symptom onset ≤ 48 hours/2 days prior to arrival)

and

One or more of the following conditions:

- blood pressure within the first 24 hours following arrival > 180 mmHg systolic
- blood pressure within the first 24 hours following arrival > 100 mmHg diastolic
- sublingual nifedipine administered within 24 hours following arrival
- sublingual nifedipine ordered within 24 hours following arrival

Denominator exclusions:

None

Numerator inclusions:

Patients in the denominator who did not receive sublingual nifedipine within the first 24 hours following the time of arrival **and** did not have a physician order for sublingual nifedipine within the first 24 hours following the time of arrival

Test Quality Indicators - Inpatient

Additional indicators, which have not yet been incorporated into published guidelines or with less certainty whether the process of care can be feasibly and reliably assessed or is amenable to quality improvement efforts, will also be calculated. While these indicators will not be used to evaluate PRO performance during the 6th SOW, they may prove useful in local improvement projects and might be eligible for inclusion as core indicators in the next PRO contract cycle.

1. Documentation of time of symptom onset (or interval)

Denominator inclusions:
Confirmed diagnosis of stroke

Denominator exclusions:
None

Numerator inclusions:
Patients in the denominator with physician documentation of symptom onset interval
or
Patients in the denominator with documentation of specific time of symptom onset (i.e., HH:MM)

2. Head CT/MRI during hospitalization

Denominator inclusions:
Confirmed diagnosis of acute stroke
and
Did not arrive from another acute care facility

Denominator exclusions:
Terminal/comfort care on the day of arrival

Numerator inclusions:
Patients in the denominator who received a head CT/MRI within one day prior to arrival or during the hospitalization

3. Time to initial head CT/MRI

The following data are used to calculate the median time (in minutes) from arrival to the initial CT/MRI.

Denominator inclusions:
(See Numerator data set for Test Quality Indicator #2)
and
Date and time of head CT/MRI scan documented
and
Date and time of arrival documented

Denominator exclusions:
None

4. Time to thrombolytic administration

The following data are used to calculate the median time (in minutes) from arrival to the initial thrombolytic administration.

Denominator inclusions:
Confirmed diagnosis of acute stroke
and
Date and time of arrival documented
and
Date and time of earliest thrombolytic administration documented
and
Thrombolytic administered during the hospitalization on the day of arrival or the first day following arrival

Denominator exclusions:
None

5. Thrombolytic patients meeting recommended dosing, timing, imaging and blood pressure parameters

5a. Acute stroke patients with adequate information documented regarding dosing, timing, imaging and blood pressure

Denominator inclusions:
Confirmed diagnosis of acute stroke
and
Thrombolytic administered during the hospitalization on the day of arrival or the first day following arrival

Denominator exclusions:
None

Numerator inclusions:
Patients in denominator with:

- thrombolytic dose(s) documented for both bolus and infusion **and**
- date and time of the initial dose of thrombolytic documented **and**
- last blood pressure readings prior to initial thrombolytic administration documented **and**
- a date and time or time interval or physician unable to determine time documented for every neurologic deficit **and**
- date and time of CT/MRI documented

5b. Acute stroke patients receiving thrombolysis for that have dosing, timing, imaging and blood pressure information documented, receive an FDA approved drug and meet recommended dosing, timing, imaging and blood pressure parameters for thrombolytic administration

Denominator inclusions:
(See Numerator data set for Test Quality Indicator #5a.)

Denominator exclusions:
None

Numerator inclusions:
Patients in the denominator with:

- thrombolytic approved by the FDA for stroke **and**
- the time interval between symptom onset and the initial thrombolytic administration ≤ three hours **and**
- last blood pressure prior to initial thrombolytic administration within acceptable parameters (i.e., pretreatment systolic blood pressure not > 185 mmHg and pretreatment diastolic blood pressure not > 110 mmHg) **and**
- the total dose of thrombolytic ≤ 90 mg (i.e., bolus plus IV infusion) **and**
- documentation of imaging prior to thrombolytic administration

5c. All acute stroke patients receiving thrombolysis for stroke, that receive an FDA approved drug and meet recommended dosing, timing, imaging and blood pressure parameters

Denominator inclusions:
(See Denominator inclusions for Test Quality Indicator # 5a.)

Denominator exclusions:
None

Numerator inclusions:
(See Numerator Inclusions for Test Quality Indicator #5b.)

6. Deep vein thrombosis (DVT) prophylaxis initiated by second hospital day

Denominator inclusions:
Confirmed diagnosis of stroke
and
Nonambulatory on second hospital day

Denominator exclusions:
Terminal/comfort care on the day of arrival or any time during the hospitalization

Numerator inclusions:
Patients in denominator with DVT prophylaxis* initiated by the close of the second hospital day

*Included in DVT prophylaxis: intermittent pneumatic compression (IPC) devices, anticoagulation with warfarin or heparin (low-dose unfractionated, low molecular weight or full-dose)